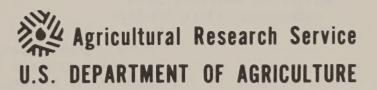
1, 932/Reserve

NORTHERN REGIONAL RESEARCH CENTER

PUBLICATIONS AND PATENTS

January-December 1977



U.S. DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE ORGANIZATION DIRECTORY

Mr. Talcott W. Edminster Administrator, ARS-USDA Administration Building, USDA Washington, D.C. 20250

Dr. H. C. Cox Deputy Administrator USDA-ARS-Western Region 2850 Telegraph Avenue Berkeley, California 94705 Telephone: (415) 486-3565

Dr. Arthur W. Cooper
Deputy Administrator
USDA-ARS-Southern Region
P.O. Box 53326
New Orleans, Louisiana 70153
Telephone: (504) 589-6753

Mr. Earl R. Glover
Deputy Administrator
USDA-ARS-North Central Region
2000 W. Pioneer Parkway
Peoria, Illinois 61614
Telephone: (309) 671-7176

Dr. Steven C. King
Deputy Administrator
USDA-ARS-Northeastern Region
Room 333, Building 003
Agricultural Research Center, West
Beltsville, Maryland 20705
Telephone: (301) 344-3418

Western Region covers Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming.

Southern Region covers Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Oklahoma, Puerto Rico, South Carolina, Tennessee, Texas, Virgin Islands, Virginia.

North Central Region covers Alaska, Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin.

Northeastern Region covers Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hamphire, New Jersey, New York, Pennsylvania, Rhode Island Vermont, Washington, D.C., West Virginia.

CONTENTS

		Page
Request for Information		4
Subject Index		5
Author Index	-paliferrence	15
Publications		20
Republications		43
Contract and Grant Research Publications		46
Patents		49
Licensing of Patents		50

Northern Regional Research Center Agricultural Research Service United States Department of Agriculture 1815 North University Street Peoria, Illinois 61604

REQUEST FOR INFORMATION

Results of research investigations at the Northern Regional Research Center are published regularly in the technical literature. public-service patents are secured to cover patentable inventions and discoveries (see page 50). convenient guide to our publications and patents, a list is published periodically describing the current research and indicating the progress achieved. Further information on any of the developments, as well as earlier technical papers, may be obtained by writing us.

In conformance with the policy of the U.S. Department of Agriculture, Northern Center publications are available to scientists and other specialists, librarians, representatives of the press, and others interested.

Reference to commercial equipment or proprietary products is made as part of the exact experimental conditions. Naming a company or product does not imply approval or recommendation by the U.S. Department of Agriculture over others not mentioned.

Requests for specific reprints should be by number and addressed to the Northern Regional Research Center. Those titles marked with an asterisk [*] are not available at the Northern Center for distribution.

Most of the publications are in journals that are available in libraries. Photographic copies of most journal articles on research at this Center can be purchased from the National Agricultural Library of the U.S. Department of Agriculture, Beltsville, Maryland 20750.

No publications will be sent regularly in response to foreign requests unless exchange arrangements have been made with the Director of the National Agricultural Library.

Copies of previous lists of publications and patents are available upon request.

January-December 1977

SUBJECT INDEX FOR PUBLICATIONS AND PATENTS

[Numbers marked (*) do not have reprints available at the Northern Regional Research Center for distribution.]

CEREAL GRAINS

General.

ARS Culture Collection: 4001

Cereal proteins: 4054*

Chart recorders, a versatile pen-holder for: 4093 Convenient and inexpensive laboratory jack: 4045

Critical point drying, specimen holder and technique: U.S. 4,003,135

Food proteins from unconventional cereals: 4057

Glycosidic sweeteners containing (1'→2)-linked disaccharides, structural aspects: 3471* republ.

structural aspects: 34/1 republ.

Industrial uses for agricultural byproducts: 4103*
Publications and patents, Northern Center, January-December 1976: 4026

Renewable coatings raw materials, need for and what could be

available today: 4141

Seeds of hope for food gains from grains: 4102*

Stored grain pest control agents from Nigella sativa and Pogostemon heyneanus: 375-F

Sweeteners, new challenges and concepts: 3470* republ.

Starch

Amylose graft polymers made by ⁶⁰Co Gamma-irradiation: 3998 Biodegradable films from starch and ethylene-acrylic acid copolymer: 4128

Cellulose graft copolymer, rheology of: 4046

Controlled release DBCP-starch xanthide granules, evaluations in laboratory and greenhouse soil tests: 4124*

Dialdehyde starch, method of making nongelling aqueous cationic compositions: U.S. 4,001,032

Electroless plating of copper, ferrous sulfate treatment for rinse waters from: 4105*

Electroless plating of copper, treatment process for some rinse waters: 4036*

Flour, highly absorbent polymeric compositions derived from: U.S. 4,045,387

Gel-particle systems for use as thickening agents: 3992

Graft copolymers: 4100

Graft copolymers of starch-polyacrylonitrile prepared by ferrous ion-hydrogen peroxide initiation: 4096

Graft polymerization of styrene onto starch by simultaneous cobalt-60 irradiation: 3995

Graft polymerization rigid fillers, composite compositions from: U.S. 4,026,849

Graft polymers, preparation by cerium(IV) initiation: 4149
Heavy metal ions removed from aqueous solutions with insoluble
crosslinked starch xanthates: U.S. 4,051,316

Heavy metal pollution control in printed circuit industry: 4034* Kraft bag paper, carbomoylethyl starch, a wet and dry strength agent in: 3979

Methanol treated activated sludge as an agricultural chemical carrier: U.S. 4,065,287

New industrial potentials for carbohydrates: 4135* Oxidation of thiols to disulfides: U.S. 4,039,586

Paper, a starch polyampholyte for: 4098

Partial digestibility of cooked amylose starch in humans and mice: 4147 Pesticide encapsulation within a starch matrix: 4062

Polysaccharides with thermoplastic polymers; graft copolymers of: 4027 Polysalt complex for wet-end addition: 4140

Rubber-starch graft copolymer compositions, methods of preparation; foamed and solid: U.S. 4,005,040

Scanning electron microscopy of saponified starch-g-polyacrylonitrile: 4126

Starch-based treatment process for copper pyrophosphate electroplating rinse waters: 4012*

Starch xanthide-reinforced vulcanizates, filler structure and tensile properties of: 3993

Super Slurper, practical process for preparation: 4148 Sweeteners, new challenges and concepts: 3470* republ.

Thickening agents, tailoring closely packed gel-particle systems for use as: 3992

Thiolated starch and vinyl monomers, graft copolymers from: 3997
Xanthate and starch, epoxy resin and diepoxide thickeners for: 4125
Xanthate interpolymer in groundwood printing paper: 4109
Xanthates, preparation and properties of oxidatively and zinc coupled: 4094*

Wheat

Cereal proteins: 4054*

Distribution and utilization of U.S. wheat: 3583* republ. Fatty acid hydroperoxide, comparison of degradation by cereals

and a legume: 4042* Flour milling: 3580* republ.

Flour proteins and their functionality in baking: 4097

Flour, wet processing of: 3581* republ.

Food proteins from unconventional cereals: 4057

Gliadin homology revealed through N-terminal amino acid sequence analysis: 4142

Industrial uses of wheat and flour: 3582* republ. Kernel structure and composition: 3579* republ.

Marketing: 3578* republ. Production: 3577* republ.

Survey of 1975 wheat and soybeans for aflatoxin, zearalenone, and ochratoxin: 4065

Wheat and corn germ, fractionation of defatted flours by air

classification: 4058
Wheat in perspective: 3576* republ.

Corn, Sorghum, and Other Grains

Cereal proteins: 4054*

Corn, a comparison of degradation of fatty acid hydroperoxides by cereals and a legume: 4042*

aflatoxin-contaminated, treated with aqueous or gaseous ammonia, acceptance and utilization by swine: 4061*

aflatoxin detection and determination in: 3240 rev.

aflatoxin distribution in contaminated, insect-damaged corn: 4060

aflatoxin in: 4003

aflatoxin in, evaluation of filter fluorometer reading of minicolumns: 4095

aflatoxin occurrence in 1973 corn at harvest: 4060

ammonia inactivation of aflatoxin and bioassay with rainbow

trout: 4063

ammonia-supplemented ambient-temperature drying of: 4151

Aspergillus flavus and aflatoxin production in acid-treated maize: 3985

corn-based foods used in food aid programs: 4099

comparison of aflatoxin analyses by various methods: 3981 comparison of protein compositions of selected corns and their

wild relatives, Teosinte and Tripsacum: 3996

cysteine adds to lipid hydroperoxide: 4074

dry milling industry: 2827* republ.

ears, Aspergillus flavus presence in silks and insects from: 4080 ears, mold development from tasseling to harvest: 4022

fermentation and distilling industries: 2828* republ.

food uses around the world: 2825* republ.

from 1975 Iowa crop, aflatoxin and Aspergillus flavus occurrence: 4025

germ and wheat, fractionation of defatted flours by air classification: 4058

germ, effect of bound lipid on flavor of protein isolate from: 4059 in perspective: 2822* republ.

Corn. kernel structure, composition, and quality: 2824* republ. production and marketing economics: 2823* republ. products, endogenously labeled with zinc-65 for use in bioavailability studies: 4127 related problems in mycotoxins: 4111 swine waste mixtures for animal feed: 4077; 4078 variation of protein and oil for crop years 1907-1972: 4014 wet-milling industry: 2826* republ. Food proteins from unconventional cereals: 4057 Oats, protein isolate from: 4082 Sorghum, fortification with oilseed proteins: 4072; 4106* utilization research at NRRC: 4107*

yield and chemical composition of fractions from dry milling of high lysine: 4081

Wild rice, control of aflatoxin production during fermentation of: 277-C* drying and hulling characteristics of: 278-C* extended storage of: 279-C* fermentation, microorganisms and flavor development associated

Actinomycetales, contemporary species concepts in: 4037* Actinomycetales, physiological characteristics and the species concept: 4048

Aeromonas punctata, production of L-serine dehyratase by: 4049 Aflatoxin and Aspergillus flavus occurrence in 1975 Iowa corn at harvest: 4025

Aflatoxin, comparison of analyses of corn by various methods: 3981 Aflatoxin-contaminated corn treated with ammonia, acceptance and utilization by swine: 4061*

Aflatoxin, detection and determination in corn: 3240 rev. Aflatoxin distribution in contaminated insect-damaged corn from 1973 crop at harvest: 4060

Aflatoxin in corn: 4003

with: 280-C*

Fermentative Conversion and Microbiology

Aflatoxin in corn, ammonia inactivation and bioassay with rainbow trout: 4063

Aflatoxin in corn, evaluation of filter fluorometer reading of minicolumns: 4095

Aflatoxin production and Aspergillus flavus in acid-treated maize: 3985 Aflatoxin production during fermentation of wild rice, control of: 277-C* Aflatoxin, zearalenone and ochratoxin, 1975 survey of wheat and soybeans for: 4065

Aflatoxins, reverse phase analytical and preparative high pressure liquid chromatography of: 4066

Agrobacterium tumefaciens, induction of oxidoreductase in: 3982 Anabaena flos-aquae, photoproduction of molecular hydrogen by: 4051 ARS Culture Collection: 4001

Aspergillus flavus presence in silks and insects from developing and mature corn ears: 4080

Aspergillus taxonomy: 4130*

Azolla-Anabaena Azolla symbiosis, altered nitrogenous pools induced by: 3977

Bacillus popilliae spores in microscope slide culture, germination and outgrowth of: 4087

Blakeslea trispora, possible mechanism of action of trisporic acid: 372-F

Cephaloascus albidus, a new heterothallic yeastlike fungus: 4029 Cryptococcus laurentii and its taxonomic varieties, comparative enzyme patterns in: 3994*

Dextrans and pullulans, industrially significant α -D-glucans: 4024

Dextrans, six unusual bacterial: 4002

Fusarium graminearum, 4-acetamido-2-butenoic acid from: 4047
Fusarium strains on grains, production of refusal factors by: 4064

Gilbertella persicaria, zygosporogenesis in: 4005

Guanine plus cytosine in deoxyribonucleic acid, a sensitive estimation by high performance liquid chromatography: 145-G*

Lignocellulosic agricultural wastes degraded by *Pleurotus*ostreatus: 4050

Miso, new uses for: 4033*

Mold development in corn ears from tasseling to harvest: 4022 Morphogenesis of azygospores induced in *Gilbertella persicaria* (+)

by imperfect hybridization with Rhizopus stolonifer (-): 4114

Mucor azygosporus, azygosporogenesis in: 4113

Mycotoxic diseases produced in mice by species of Aspergillus ochraceus group: 4145*

Mycotoxins as insecticides: 4013

Mycotoxins, corn-related problems: 4111

Mycotoxins in cattle feeds, important sources of: 4104*

Nucleotide-pool concentrations during polysaccharide biosynthesis

in four ascomycetes, HPLC assay of: 146-G*
Patulin and citrinin from *Penicillium expansum*: 4016

Penicillic acid production in submerged culture: 4112

Penicillium conidia, swelling by Fusarium acuminatum metabolite: 4146
Penicillium expansum, production and biological activity of patulin

and citrinin from: 4016

Penicillium stoloniferum, transmission of PsV-F and PsV-S mycoviruses during conidiogenesis of: 4052

Photoproduction of molecular hydrogen by Anabaena flos-aquae: 4051 Polyenic antifungal antibiotics, systematics of producers: 4039* Rhinocladiella mansonii, production in 20-liter fermentors of a

unique biopolymer from: 3975

Salad dressings, microbiological spoilage of: 4032*

Solid state fermentation: 4129

Streptomycetes and Streptoverticillia at species level, revision of 1965 system: 4038*

Swine waste-corn mixtures, characteristics of aerobic, solid substrate fermentation of: 4077

Swine waste-corn mixtures for animal feed, pilot-plant studies: 4078
Swine waste, fermentation process for utilization of: 4101
T-2 toxin, acute toxicity in broiler chicks and laying hens: 4132*
Wild rice fermentation, microorganisms and flavor development
associated with: 280-C*

Xanthomonas campestris, characterization of xanthan products of differing pyruvic acid contents: 4023

Xanthomonas campestris, maintenance procedures for curtailment of genetic instability: 4015

OILSEEDS

General.

Acetal esters, preparation and selective hydrolysis of: 4091 Aliphatic hydrocarbons, isolation of carboxy-substituted: U.S. 4,021,462

ARS Culture Collection: 4001

Atomic absorption flashback: 4139*

Cereal proteins: 4054*

Chart recorders, versatile pen-holder for: 4093 Convenient and inexpensive laboratory jack: 4045

Fatty esters, *cis* and *trans*, stereospecific synthesis of: 4085 Hydroformylated vegetable oils and their methyl esters, analysis for and recovery of rhodium from: 4070; 4071

Industrial uses for agricultural byproducts: 4103*

Legume protein products, lipid-derived flavors of: 4092

Legumes, seed composition and structure, processing into protein products, and protein properties: 4055*

Metal and polymer surfaces, introductory symposium remarks on characterization of: 4011*

Metalworking lubricants, alcohol esters of fatty acids as: U.S. 4,031,019

Nonfood uses for commercial vegetable oil crops: 4134*

Plant pigments, high performance liquid chromatography of: 4006

Plasticizers for vinyl polymers, oligomeric polyesters from long-chain dicarboxylic acids as: U.S. 4,029,627

Publications and patents, Northern Center, January-December 1976: 4026

Renewable coatings raw materials, need for and what could be available today: 4141

Seeds of hope for food gains from grains: 4102*

Silver resin chromatography of *cis* and *trans* fatty methyl esters, new developments in: 4076

Sorghum, fortification with oilseed proteins: 4072; 4106*

Survey of 1975 wheat and soybeans for aflatoxin, zearalenone, and ochratoxin: 4065

Triglyceride separation by reverse phase high performance liquid chromatography: 4118

Linseed Oil

Allylic hydroperoxides from autoxidation of methyl oleate: 4053* Autoxidized fats, analysis by GC-MS: 4121; 4122; 4143 Carboxystearic acid, 9- and 10-isomers of, isolation and polyamidation with hexamethylenediamine: 4119 Curing-antiscaling emulsion for concrete: 3291 rev. Geminal hydroxymethyl compound from 9(10)-formylstearic acid: 4116 Linseed oil paint from treated pigments, mildew and weather resistance of: 4138* Linseed oil paint, inhibition of yellowing in: 4028 Pigment-in-oil suspensions without added solvents, rheological behavior of: 3976* Polyamides from carboxystearic acid: 4117 Protective coatings, polyesteramides from linseed oil and soybean oil: 3983 Nucleophilic and radical addition of hydrogen sulfide to methyl linolenate and linseed oil: 3978 Sperm oil replacements, synthetic wax esters from selectively hydrogenated soybean and linseed oils: 4020 Triglyceride chemistry for plastics and coatings, new developments: 4136* Unsaturated fatty acids, possible atherogenic properties of: 4131* Unsaturated fatty compounds, catalytic hydroformylation and hydrocarboxylation of: 4115

Vegetable oil research at NRRC for plastics and coatings: 4137*

Soybean Oil

Allylic hydroperoxides from autoxidation of methyl oleate: 4053* Automated vegetable oil minirefinery, development of: 4152 Autoxidized fats, analysis by GC-MS: 4121; 4122; 4143 Carboxystearic acid, 9- and 10-isomers of, isolation and polyamidation with hexamethylenediamine: 4119 Copper-silica catalyst, effect of method of preparation upon activity: 4021 Cyteine adds to lipid hydroperoxide: 4074 Damaged soybeans, quality of oil from: 3984 Edible oil production, developments in: 4040* Geminal hydroxymethyl compounds from 9(10)-formylstearic acid: Homogeneous hydrogenation of unsaturated fats, applications and implications: 4056*; 4056* republ. Polyamides from carboxystearic acid: 4117 Protective coatings, polyesteramides from linseed oil and soybean oil: 3983 Sperm oil replacements, synthetic wax esters from selectively hydrogenated soybean and linseed oils: 4020

Triglyceride chemistry for plastics and coatings, new developments in: 4136*

Triolein heated in air, volatile components from: 3987
Unsaturated fatty acids, possible atherogenic properties of: 4131*
Unsaturated fatty compounds, catalytic hydroformylation and hydrocarboxylation of: 4115

Vegetable oil research at NRRC for plastics and coatings: 4137* Zero trans margarines, preparation, structure, and properties of interesterified soybean oil-soy trisaturate blends: 4090

Soybean Meal and Protein

Alcohol treatment of soybeans and soybean protein products: 4144 Cereal proteins: 4054*

Fatty acid hydroperoxide by cereals and a legume, a comparison of degradation: 4042*

Flatulence problems associated with soy products: 4041* Legume protein products, lipid-derived flavors of: 4092

Legumes, seed composition and structure, processing into protein products, and protein properties: 4055*

Mineral availability in soy protein products: 4150

Oxygenated fatty acids from soybean phosphatidylcholines and their possible derivation from hydroperoxides: 4043*

Protein extraction from vegetable seed compositions: U.S. 4,018,755 Soy consumption, flavor and oligosaccharides as limiting factors: 4031*

Soy extract catalyzes formation of 9-oxo-trans-12,13-epoxy-trans-10-octadecenoic acid from 13-hydroperoxy-cis-9,trans-11octadecadienoic acid: 4123

Soybean flour and derivatives, review of antioxidant activity of: 4108

Soybean oligosaccharides, decomposition by intestinal bacteria: 370-F Soybean processing and quality control, enzymes in: 4044*

Soybean protein uses, problems and potential: 4007*

Soybean protein, physical and chemical properties of: 3988 Soybean trypsin inhibitors, practical significance of: 4030*

Fermentative Conversion and Microbiology

Lactobacillus acidophilus utilization of sugars and production of fermented soybean product: 4083

Miso, new uses for: 4033*

Soybeans cultured with fungi, identification of factors affecting stimulation of chick growth: 4110*

Tempeh starter for soybean fermentation: 4035*

HORTICULTURAL AND SPECIAL CROPS

General

Alkaloids from in vitro tissue culture of Datura metel Linn., effects of various auxins on growth and production of: 366-F

Antitumor alkaloids in callus cultures of Cephalotaxus harringtonia: 4086

ARS Culture Collection: 4001

Atropine from Atropa belladonna Linn. tissue culture: 374-F Cabbage, GLC determination of aglucon derivatives from: 4068

Cabbage, identification of organic nitriles from: 3980

Cephalotaxine esters, synthesis of and correlation of structures with antitumor activity of: 3991

Cephalotaxus harringtonia, antitumor alkaloids in callus culture of: 4086

Cereal proteins: 4054*

Chart recorders, a versatile pen-holder for: 4093 Convenient and inexpensive laboratory jack: 4045

Datura metel Linn., alkaloids from in vitro tissue culture of: 366-F Ephedra foliata Boiss., pseudoephedrine from in vivo and in vitro tissue cultures: 371-F

Glucosinolates and derived products in cruciferous vegetables: 3980; 4067; 4068

Glucosinolates by retention on anion exchange resin and enzymatic hydrolysis to measure released glucose: 4067

Industrial uses for agricultural byproducts: 4103*

Juvenile hormone-like activity of some Indian herbaceous plants:

Nonfood uses for commercial vegetable oil crops: 4134*

Papaver sommiferum Linn., production of major alkaloids from in vitro tissue cultures of: 367-F

Plasticizers for vinyl polymers, oligomeric polyesters from long-chain dicarboxylic acids as: U.S. 4,029,627

Potential wealth in new crops, research and development: 4133*

Publications and patents, Northern Center, January-December 1976: 4026 Renewable coatings raw materials, need for and what could be

available today: 4141

Seeds of hope for food gains from grains: 4102*

Solanaceous plants, tissue cultures of: 369-F

Stored grain pest control agents from Nigella sativa and Pogostemon heuneanus: 375-F

Tagetes erecta L., effects of ascorbic acid on growth and production of pyrethrins from in vitro tissue culture of: 368-F

0ilseeds

Alchornea cordifolia seed oil, rich source of new C20 epoxide: 4069 Brassylic acid, chemical intermediate from high-erucic oils: 3989

Brassylic acid, nylon-1313 from: 3990

Crambe and Limmanthes seed oils, synthetic wax esters and diesters from: 4079

Crambe meal fed to cattle, tests for progoitrin, nitriles, and goitrin in body tissues: 4010

Crambe meals detoxified by water extraction on a continuous filter, biological evaluation of: 4089

Crambe oil, nylon-1313 from brassylic acid from: 3990

Crambe processing, glucosinolate removal by water washing on continous filter: 4088

Crepis conyzaefolia seed oil, a 14-membered lactone from: 4017

Crepis conyzaefolia seed oil, epoxyoctadecadienoic acids from: 4000

Cyanolipids: 4019*

Fatty esters, cis and trans, stereospecific synthesis of: 4085

Grevillea robusta seed oil, source of ω -5 monoenes: Isano oil, cis-enediyne chromophore of: 4075

Isano oil, oxygenated fatty acids of: 4018

Jojoba oil analysis by high pressure liquid chromatography and gas chromatography-mass spectrometry: 4008

Jojoba, x-ray study of hydrogenated wax from: 3986

Limmanthes oil, enrichment of eicosenoic and docosadienoic acids from: 4120

Myristicin, major volatile component in *Portenschlagia ramosissima*: 4009 *Polygala virgata* seed oil, a new source of acetotriglycerides: 4084 *Rapanea laetevirens* seed lipids, alkyl- and alkenylresorcinols in: 4004 Triglyceride chemistry for plastics and coatings, new developments

in: 4136*

Triglyceride separation by reverse phase high performance liquid chromatography: 4118

Vegetable oil research at NRRC for plastics and coatings: 4137*

Pulping Crops

Kenaf paper structure, scanning electron microscopy of: 4073

January-December 1977

AUTHOR INDEX FOR PUBLICATIONS AND PATENTS

Α

Adams, G. L.: 4080 Adhikary, P. R.: 375-F; 376-F Adlof, R. O.: 4091 Anderson, R. A.: 4072; 4081; 4102*; 4106*; 4107*; 2826* republ.; 3580* republ.; 3581* republ. Anderson, R. L.: 4150

В

Bagby, M. O.: 4073 Bagley, E. B.: 3992; 3993; 4027; 4046; 4100; 4108; 4151; U.S. 4,026,849 Baker, E. C.: 4088; 4089 Baker, F. L.: 3983; 4073; 4126; 4138*; U.S. 4,003,135 Baptist, J. N.: 3994* Barnett, L. B.: 145-G* Bates, F.: 4132* Beal, R. E.: 3984 Bell, E. W.: 4020; U.S. 4,031,019 Benevenga, N. J.: 4131* Bennett, G. A.: 4065 Bietz, J. A.: 4142 Bitner, E. D.: 4152 Black, L. T.: 3984 Blessin, C. W.: 4127 Bockholt, A. J.: 4080 Bohannon, M. B.: 4009 Bookwalter, G. N.: 4072; 4099; 4106*; 4107*; 4108 Bothast, R. J.: 3985; 4022; 4080; 4151 Brekke, O. L.: 4058; 4061*; 4063; 2827* republ. Buchanan, R. A.: 3993 Bulla, L. A., Jr.: 4087

Burbridge, L. H.: 4058; 4081 Burmeister, H. R.: 4132*; 4146 Burr, R. C.: 3995; 4027; 4126 Burton, K. A.: 3975

C

Cadmus, M. C.: 3975; 4015; 4023 Calvert, O. H.: 4080 Canty, D. J.: 4131* Carlson, C. W.: 4110* Carlson, K. D.: 3989 Carlton, W. W.: 4145* Carr, M. E.: 4098; 4109; 4140 Cavins, J. F.: 3977 Chah, C. C.: 4110* Chang, S.-P.: 4120; U.S. 4,029,627 Chi, M. S.: 4132* Ciegler, A.: 4013; 4016; 4047; 4063; 4064; 4112 Cluskey, J. E.: 4082 Conway, H. F.: 4081 Cunningham, R. L.: 4073

D

Daxenbichler, M. E.: 3980; 4010; 4067; 4068

Delfel, N. E.: 4086

DeMarini, D. M.: 4052

Dennenberg, R. J.: 3993

Deshpande, R. S.: 375-F; 376-F

Detroy, R. W.: 4052

Doane, W. M.: 3995; 3997; 4012*; 4027; 4036*; 4062; 4094*; 4096; 4105*; 4126; 4148; 4149; U.S. 4,026,849; U.S. 4,039,586; U.S. 4,045,387; U.S. 4,051,316

Dufek, E. J.: 4070; 4071; U.S. 4,021,462

Dutton, H. J.: 3987; 4006; 4040*; 4090; 4152 Dwoskin, P. B.: 2823* republ.

E

Earle, F. R.: 4014
Eissler, R. L.: 4138*
Eldridge, A. C.: 4144
Ellis, J. J.: 4005; 4113; 4114
Elson, C. E.: 4131*
Emken, E. A.: 4085; 4090; 4091
Ernst, A. J.: U.S. 4,001,032
Ernst, J. O.: 4152
Eskins, K.: 4006
Evans, C. D.: 3984

F

Fanta, G. F.: 3995; 4027; 4100; 4126; 4148; U.S. 4,026,849; U.S. 4,045,387
Feldmesser, J.: 4124*
Fennell, D. I.: 4025; 4052; 4080; 4130*; 4145*
Frank, G. R.: 4061*
Frank, J. F.: 277-C*; 280-C*
Frankel, E. N.: 4053*; 4056*; 4115; 4117; 4121; 4122; 4143; 4056* republ.

G

Garcia, W. J.: 4127 Gardner, H. W.: 4042*; 4043*; 4074; 4123 Garwood, R. F.: 4053*; 4121; 4122; 4143 Gast, L. E.: 3978; 3983; 4020; 4028; 3291 republ. Gordon, S. H.: 3979 Gould, D. H.: 4089 Goulden, M. L.: 3981; 3985; 4060; 4065; 4095 Griffin, E. L.: 4058 Grummer, R. H.: 4131*

Gugliemelli, L. A.: 4149; U.S. 4,026,849 Gumbmann, M. R.: 4089 Guthrie, W. D.: 4080

Н

Hamerstrand, G. E.: 3979; 4109; 4140 Hayes, R. E.: 4108 Heath, H. D.: U.S. 4,001,032 Heidemann, R.: 279-C* Herman, A.: 4015 Hesseltine, C. W.: 3985; 4005; 4022; 4033*; 4035*; 4060; 4065; 4083; 4110*; 4113; 4114; 4129; 4146 Hodge, J. E.: 3471* republ. Hodgson, R. H.: 4127 Hofreiter, B. T.: 3998; 4098; 4109; 4140; U.S. 4,001,032 Hooper, G. R.: 4005; 4113; 4114 Huebner, F. R.: 4097; 4142 Huffman, E. L.: 3989

I

Inglett, G. E.: 4054*; 4057; 4059;
4074; 4082; 4127; 4147; 2822*
republ.; 2824* republ.; 2825*
republ.; 2828* republ.; 3470*
republ.; 3471* republ.; 3576*
republ.; 3579* republ.; 3580*
republ.

J

Jackson, L. K.: 4016 Jeanes, A.: 4002; 4023; 4024 Jellum, M. D.: 4080 Jensen, A. H.: 4061*; 4064 Johnson, C. E.: 278-C*; 279-C* Johnson, J. L.: 145-G* Johnston, A. E.: 4131* K

Kaneshiro, T.: 4050 Kasai, T.: 370-F Kawamura, S.: 370-F Khambay, B. P. S.: 4053*; 4121; 4122; 4143 Khanna, P.: 366-F; 367-F; 368-F; 369-F; 371-F; 374-F Khanna, R.: 366-F; 367-F; 368-F Khoo, U.: 4147 Kidby, D.: 4015 Kleiman, R.: 3999; 4009; 4018; 4043*; 4069; 4074; 4118; 4123 Knutson, C. A.: 4023 Ko, C. Y.: 145-G*; 146-G* Kohlhase, W. L.: 4117; 4119 Konishi, F.: 4083 Koos, R. E.: 4020 Koritala, S.: 4021 Kurtz, H. J.: 4132* Kurtzman, C. P.: 3994*; 4029; 4032*; 4052 Kwolek, W. F.: 3984; 4025; 4060; 4080; 4090; 4095

L

Lagoda, A. A.: 3975
Lalich, J. J.: 4131*
Lancaster, E. B.: 4151
Lee, D. J.: 4063
Lillehoj, E. B.: 4025; 4060; 4080; 4104*
Lindenfelser, L. A.: 4112
Lindsay, R. C.: 277-C*; 278-C*; 279-C*; 280-C*
List, G. R.: 3984; 4070; 4071; 4090; 4139*
Lund, D. B.: 277-C*; 278-C*; 279-C*; 280-C*
Lyons, A. J.: 4039*

М

McGhee, J. E.: 4030*
McNair, H. M.: 145-G*; 146-G*
Madrigal, R. V.: 4004; 4079; 4084

Maher, G. G.: 4125; U.S. 4,005,040 Majors, K. R.: 3583* republ. Manot, S. K.: 369-F Manwiller, A.: 4080 Marth, E. H.: 277-C*; 278-C*; 279-C*; 280-C* Mikolajczak, K. L.: 3991; 4019* Miller, D. L.: 4103*; 3582* republ. Miller, L. D.: 4148 Miller, R. W.: 4017; 4018; 4075 Miller, W. R.: 4116 Mirocha, C. J.: 4132* Miwa, T. K.: 3986; 4008 Modi, V. V.: 372-F Moore, C. A.: 2823* republ.; 3577* republ.; 3578* republ. Montgomery, R. R.: 4148 Moulton, K. J.: 3984 Mounts, T. L.: 4076; 4102* Mueller, J. K.: 4059 Mustakas, G. C.: 4088; 4089

N

Nakamura, L. K.: 3982 Neff, W. E.: 4091; 4119; 4121; 4122; 4143 Nelson, G. E. N.: 4049 Newton, J. W.: 3977 Nielsen, H. C.: 4059 Nieschlag, H. J.: 3990; 4079; 4093 Nofsinger, G. W.: 4151

0

O'Donnell, K. L.: 4005; 4113; 4114 Otey, F. H.: 4128; 4135*

P

Palmer, I. S.: 4110*
Paulis, J. W.: 3996
Peplinski, A. J.: 4061*; 4063
Perkins, R. B., Jr.: 3989; 3990
Perry, T. W.: 4010
Peterson, R. E.: 4049
Pfeifer, V. F.: 4058

Pittsley, J. E.: 4023
Plattner, R. D.: 3999; 4002; 4004;
4008; 4017; 4018; 4065; 4069;
4075; 4084; 4118
Porter, J. R.: 4131*
Pridham, T. G.: 4001; 4037*; 4038*;
4039*; 4048
Princen, L. H.: 3976*; 4010; 4011*;
4133*; 4136*; 4137*; 4141; U.S.
4,003,135
Pryde, E. H.: 4091; 4115; 4116;
4117; 4119; 4134*
Putnam, G. B.: 4063

R

Rackis, J. J.: 4007*; 4030*; 4041*; 4044*; 4092; 4150 Rakoff, H.: 4028; 4045; 4085 Rao, S.: 372-F Rapacz, J.: 4131* Rayford, W. E.: 4012*; 4034*; 4036*; 4105* Ridgway, R. W.: U.S. 4,029,627 Rohwedder, W. K.: 3978; 3987; 4121; 4122; 4143 Roth, W. B.: U.S. 4,065,287 Rothfus, J. A.: 3990; 4079; 4086; 4120 Rothore, A. K.: 369-F Russell, C. R.: 3979; 3995; 3997; 4027; 4062; 4094*; 4096; 4098; 4109; 4126; 4128; 4140; 4149; U.S. 4,026,849

S

Sanderson, J. E.: 4142
Sandford, P. A.: 3975; 4015; 4023
Schneider, W. J.: 3983
Scholfield, C. R.: 4006; 4076
Schroeder, W.: 4010
Schulte, M. I.: 3979; 4098
Schwab, A. W.: 3978
Selke, E.: 3987
Semeniuk, G.: 4110*
Sessa, D. J.: 4042*; 4043*; 4092

Seymour, F. R.: 4002 Sexson, K. R.: 4082 Sharma, G. L.: 369-F; 374-F Sharpe, E. S.: 4087 Shasha, B. S.: 4062; 4124*; U.S. 4,039,586 Shimoda, W.: 4132* Shotwell, O. L.: 3981; 3985; 4003; 4060; 4065; 4066; 4095; 4111; 3240 republ. Shrago, E. S.: 4131* Simpson, T. D.: 3986; 4090 Sinnhuber, R. O.: 4063 Slodki, M. E.: 4002 Smith, C. R., Jr.: 3991; 4004; 4018; 4075; 4084 Smith, H. E.: 3979 Snyder, J. M.: 4152 Sogani, M.: 371-F Sohns, V. E.: 3989; 3990; 4088; 4148 Spencer, G. F.: 3980; 4000; 4004; 4008; 4017; 4047; 4069; 4079; 4118 Stern, N. J.: 4083 Stolp, J. A.: 3976*; 4138* Stout, E. I.: 3997; 4094*; 4096; U.S. 4,039,586 Strandberg, G. W.: 4051 Stringfellow, A. C.: 4058 Stubblefield, R. D.: 4066 Stuiber, D. A.: 277-C*; 278-C*; 279-C* Swain, E. W.: 4035* Swanson, C. L.: 4149

T

Tallent, W. H.: 4102*
Tanusi, S.: 370-F
Taylor, N. W.: 3992; 4046
Thomas, F. L.: 4020; 4028
Tipnis, H. P.: 375-F; 376-F
Tjarks, L. W.: 4047
Torrey, G. S.: 277-C*
Touzinsky, G. F.: 4073
Trimnell, D.: 3997; 4094*; 4096
Tuite, J.: 4145*
Tyler, D. D.: 3982

U

Uddin, A.: 369-F; 371-F; 374-F

٧

VanEtten, C. H.: 3980; 4010; 4067; 4068 Vercellotti, J. R.: 145-G*; 146-G* Vesonder, R. F.: 4016; 4047; 4064; 4146

W

Walles, J. H.: 4063 Wall, J. S.: 3996; 4059; 4142 Wallen, L. L.: 4047 Wang, H. L.: 4035*; 4083 Wang, L. C.: U.S. 4,018,755

Warner, K.: 3984; 4059; 4072; 4144

Watson, P. R.: 3975; 4023 Weaver, G.: 4132* Weaver, M. O.: 4148 Weedon, B. C. L.: 4053*; 4121; 4122; 4143 Weiner, B. A.: 4077; 4078; 4101 Weisleder, D.: 3991; 4018; 4043*; 4074; 4075; 4084 Westhoff, R. P.: 4128 Wing, R. E.: 4012*; 4034*; 4036*; 4105*; U.S. 4,051,316 Wolf, M. J.: 4147 Wolf, W. J.: 3988; 4031*; 4055*; 4144 Worden, K. A.: 4052 Wu, Y. V.: 4082

Z

Zimmerman, J. L.: 4145* Zuber, M. S.: 4080

January-December 1977

PUBLICATIONS

[Publications marked with an asterisk (*) are not available for distribution at the Northern Regional Research Center. When requesting reprints, please order by number. Use your zip code.]

- 3975 A Unique Biopolymer from Rhinocladiella mansonii NRRL Y-6272:
 Production in 20 Liter Fermentors
 K. A. Burton, M. C. Cadmus, A. A. Lagoda, P. A. Sandford,
 and P. R. Watson
 Biotechnol. Bioeng. 18(12): 1669-1677. December 1976
- 3976* Rheological Behavior of Pigment-in-Oil Suspensions Without Added Solvents
 L. H. Princen and J. A. Stolp
 Am. Chem. Soc., Div. Org. Coat. Plast. Chem., Pap. 35(1): 255-259. 1975
- 3977 Altered Nitrogenous Pools Induced by the Azolla-Anabaena Azolla Symbiosis
 Jack W. Newton and James F. Cavins
 Plant Physiol. 58(6): 798-799. December 1976
- Nucleophilic and Radical Addition of H₂S to Methyl Linolenate and Linseed Oil

 A. W. Schwab, L. E. Gast, and W. K. Rohwedder
 J. Am. Oil Chem. Soc. 53(12): 762-766. December 1976
- Carbamoylethyl Starch as a Wet- and Dry-Strength Agent.
 Experiments with Kraft Bag Paper
 G. E. Hamerstrand, H. E. Smith, S. H. Gordon, M. I. Schulte, and C. R. Russell
 Tappi 60(1): 131-133. January 1977
- Glucosinolates and Derived Products in Cruciferous Vegetables.

 Identification of Organic Nitriles from Cabbage

 Melvin E. Daxenbichler, Cecil H. VanEtten, and Gayland F. Spencer
 J. Agric. Food Chem. 25(1): 121-124. January-February 1977

- Aflatoxin: Comparison of Analyses of Corn by Various Methods
 Odette L. Shotwell and Marion L. Goulden
 J. Assoc. Off. Anal. Chem. 60(1): 83-88. January 1977
- Induction of D-Aldohexoside:Cytochrome c Oxidoreductase in Agrobacterium tumefaciens
 L. K. Nakamura and D. D. Tyler
 J. Bacteriol. 129(2): 830-835. February 1977
- Polyesteramides from Linseed and Soybean Oils for Protective Coatings. Scanning Electron Microscope and Durability Studies L. E. Gast, W. J. Schneider, and F. L. Baker J. Coat. Technol. 49(624): 57-62. January 1977
- Quality of Oil from Damaged Soybeans
 G. R. List, C. D. Evans, K. Warner, R. E. Beal, W. F. Kwolek,
 L. T. Black, and K. J. Moulton
 J. Am. Oil Chem. Soc. 54(1): 8-14. January 1977
- **Aspergillus flavus and Aflatoxin Production in Acid-Treated Maize
 R. J. Bothast, Marion L. Goulden, Odette L. Shotwell, and C. W. Hesseltine
 J. Stored Prod. Res. 12(3): 177-183. September 1976
- 3986 X-Ray Study of Hydrogenated Jojoba Wax
 T. D. Simpson and T. K. Miwa
 J. Am. Oil Chem. Soc. 54(2): 54-58. February 1977
- Volatile Components from Triolein Heated in Air
 E. Selke, W. K. Rohwedder, and H. J. Dutton
 J. Am. Oil Chem. Soc. 54(2): 62-67. February 1977
- Physical and Chemical Properties of Soybean Proteins
 W. J. Wolf
 J. Am. Oil Chem. Soc. 54(2): 112A-117A. February 1977

- Brassylic Acid: Chemical Intermediate from High-Erucic Oils Kenneth D. Carlson, Virgil E. Sohns, R. Beltron Perkins, Jr., and Everett L. Huffman²
 (1Southern Research Institute, Birmingham, Alabama; 2Southern Services, Inc., Birmingham, Alabama)
 Ind. Eng. Chem., Prod. Res. Dev. 16(1): 95-101. March 1977
- Nylon-1313 from Brassylic Acid
 H. J. Nieschlag, J. A. Rothfus, V. E. Sohns, and
 R. Beltron Perkins, Jr.¹
 (¹Southern Research Institute, Birmingham, Alabama)
 Ind. Eng. Chem., Prod. Res. Dev. 16(1): 101-107. March 1977
- Synthesis of Cephalotaxine Esters and Correlation of Their Structures with Antitumor Activity
 Kenneth L. Mikolajczak, Cecil R. Smith, Jr., and David Weisleder J. Med. Chem. 20(3): 328-332. March 1977
- Tailoring Closely Packed Gel-Particle Systems for Use as Thickening Agents
 N. W. Taylor and E. B. Bagley
 J. Appl. Polym. Sci. 21(1): 113-122. January 1977
- Filler Structure and Tensile Properties of Starch Xanthide-Reinforced Vulcanizates
 R. J. Dennenberg, R. A. Buchanan, and E. B. Bagley
 J. Appl. Polym. Sci. 21(1): 141-148. January 1977
- Comparative Enzyme Patterns in Cryptococcus laurentii and Its Taxonomic Varieties
 J. N. Baptist¹ and C. P. Kurtzman
 (¹The University of Texas System Cancer Center, M. D. Anderson Hospital and Tumor Institute, Houston, Texas)
 Mycologia 68(6): 1195-1203. November-December 1976
- Graft Polymerization of Styrene onto Starch by Simultaneous Cobalt-60 Irradiation
 George F. Fanta, Robert C. Burr, W. M. Doane, and C. R. Russell J. Appl. Polym. Sci. 21(2): 425-433. February 1977

- Comparison of the Protein Compositions of Selected Corns and Their Wild Relatives, Teosinte and Tripsacum

 Jerrold W. Paulis and Joseph S. Wall

 J. Agric. Food Chem. 25(2): 265-270. March-April 1977
- Graft Copolymers from Thiolated Starch and Vinyl Monomers D. Trimnell, E. I. Stout, W. M. Doane, and C. R. Russell J. Appl. Polym. Sci. 21(3): 655-663. March 1977
- Amylose Graft Polymers Made by ⁶⁰Co Gamma-Irradiation B. T. Hofreiter
 J. Appl. Polym. Sci. 21(3): 761-772. March 1977
- Grevillea robusta Seed Oil: A Source of ω-5 Monoenes
 R. D. Plattner and R. Kleiman
 Phytochemistry 16(2): 255-256. March 1977
- Epoxyoctadecadienoic Acids from Crepis conyzaefolia Seed Oil G. F. Spencer
 Phytochemistry 16(2): 282-284. March 1977
- ARS Culture Collection
 Thomas G. Pridham
 In "Systematic Collections of the Agricultural Research Service,"
 U.S. Dep. Agric. Misc. Publ. 1343, pp. 7-13. May 1977
- Six Unusual Dextrans: Methylation Structural Analysis By Combined G.L.C.-M.S. of Per-O-Acetyl-Aldononitriles
 Fred R. Seymour, Morey E. Slodki, Ronald D. Plattner, and Allene Jeanes
 Carbohydr. Res. 53(2): 153-166. February 1977
- 4003 Aflatoxin in Corn
 O. L. Shotwell
 J. Am. Oil Chem. Soc. 54(3): 216A-224A. March 1977
- Alkyl- and Alkenylresorcinols in Rapanea laetevirens
 Seed Lipids
 R. V. Madrigal, G. F. Spencer, R. D. Plattner, and
 C. R. Smith, Jr.
 Lipids 12(4): 402-406. April 1977

- Zygosporogenesis in Gilbertella persicaria
 K. L. O'Donnell, J. J. Ellis, C. W. Hesseltine, and G. R. Hooper¹
 (¹Center for Electron Optics, Michigan State University, East Lansing, Michigan)
 Can. J. Bot. 55(6): 662-675. March 1977
- High-Performance Liquid Chromatography of Plant Pigments
 Kenneth Eskins, Charles R. Scholfield, and Herbert J. Dutton
 J. Chromatogr. 135(1): 217-220. May 1977
- 4007* · Soybean Protein: Uses, Problems, and Potential
 J. J. Rackis
 J. Am. Oil Chem. Soc. 54(4): 290A, 292A, 294A. April 1977
- Jojoba Oil Analysis by High Pressure Liquid Chromatography and Gas Chromatography/Mass Spectrometry
 Gayland F. Spencer, Ronald D. Plattner, and Thomas Miwa
 J. Am. Oil Chem. Soc. 54(5): 187-189. May 1977
- of Portenschlagia ramosissima
 Maerean B. Bohannon and Robert Kleiman
 Lipids 12(3): 321-323. March 1977
- Tests for epi-Progoitrin, Derived Nitriles, and Goitrin in
 Body Tissues from Cattle Fed Crambe Meal
 C. H. VanEtten, M. E. Daxenbichler, W. Schroeder, L. H. Princen,
 and T. W. Perry¹
 (¹Purdue University, West Lafayette, Indiana)
 Can. J. Anim. Sci. 57: 75-80. March 1977
- 4011* Introductory Remarks
 L. H. Princen
 In "Characterization of Metal and Polymer Surfaces. Vol. 2,
 Polymer Surfaces," ed. H. L. Lee, p. 249. New York. 1977
- 4012* · Treatment Process for Copper Pyrophosphate Electroplating Rinse Waters
 R. E. Wing, W. E. Rayford, and W. M. Doane
 Met. Finish. 75(5): 101-104. May 1977

- Mycotoxins as Insecticides
 Alex Ciegler
 In "Biological Regulation of Vectors. The Saprophytic and Aerobic Bacteria and Fungi," Conf. Rep., Easton, Md., Oct. 6-8, 1975. DHEW Publ. No. (NIH) 77-1180, pp. 135-144. 1977
- Protein and Oil in Corn: Variation by Crop Years from 1907 to 1972

 F. R. Earle
 Cereal Chem. 54(1): 70-79. January-February 1977
- Maintenance Procedures for the Curtailment of Genetic Instability: Xanthomonas campestris NRRL B-1459

 Denis Kidby, Paul Sandford, Alberta Herman, and Martin Cadmus Appl. Environ. Microbiol. 33(4): 840-845. April 1977
- 4016 Production and Biological Activity of Patulin and Citrinin from Penicillium expansum
 A. Ciegler, R. F. Vesonder, and Linda K. Jackson
 Appl. Environ. Microbiol. 33(4): 1004-1006. April 1977
- (-)-(S,S)-12-Hydroxy-13-octadec-cis-9-enolide, A 14-Membered Lactone from Crepis conyzaefolia Seed Oil Gayland F. Spencer, Ronald D. Plattner, and Roger Wayne Miller Phytochemistry 16(6): 764-766. May 1977
- 4018 Oxygenated Fatty Acids of Isano Oil
 Roger W. Miller, David Weisleder, Robert Kleiman, Ronald D.
 Plattner, and Cecil R. Smith, Jr.
 Phytochemistry 16(7): 947-951. May 1977
- 4019* Cyanolipids

 K. L. Mikolajczak

 Prog. Chem. Fats Other Lipids 15(Pt. 2): 97-130. 1977
- Sperm Oil Replacements: Synthetic Wax Esters from Selective y
 Hydrogenated Soybean and Linseed Oils
 E. W. Bell, L. E. Gast, F. L. Thomas, and R. E. Koos¹
 (¹Eastern Regional Research Center, ARS, USDA, Philadelphia, Pa.)
 J. Am. Oil Chem. Soc. 54(6): 259-263. June 1977

- Selective Hydrogenation of Soybean Oil. VIII. Effect of Method of Preparation Upon the Activity of a Copper-Silica Catalyst
 S. Koritala
 J. Am. Oil Chem. Soc. 54(6): 267-268. June 1977
- Mold Development in Ears of Corn from Tasseling to Harvest
 C. W. Hesseltine and R. J. Bothast
 Mycologia 69(2): 328-340. March-April 1977
- Variation in Xanthomonas campestris NRRL B-1459: Characterization of Xanthan Products of Differing Pyruvic Acid Content P. A. Sandford, J. E. Pittsley, C. A. Knutson, P. R. Watson, M. C. Cadmus, and A. Jeanes ACS Symp. Ser. No. 45: 192-210. 1977
- 4024 Dextrans and Pullulans: Industrially Significant α -D-Glucans Allene Jeanes ACS Symp. Ser. No. 45: 284-298. 1977
- Aflatoxin and Aspergillus flavus Occurrence in 1975 Corn at Harvest from a Limited Region of Iowa
 E. B. Lillehoj, D. I. Fennell, and W. F. Kwolek
 Cereal Chem. 54(2): 366-372. March-April 1977
- Publications and Patents of the Northern Regional Research Center, January-December 1976
 North. Reg. Res. Center, ARS, USDA, 92 pp. [1977]
- Graft Copolymers of Polysaccharides with Thermoplastic Polymers. A New Type of Filled Plastic E. B. Bagley, G. F. Fanta, R. C. Burr, W. M. Doane, and C. R. Russell Polym. Eng. Sci. 17(5): 311-316. May 1977
- Inhibition of Yellowing in Linseed Oil Paint H. Rakoff, F. L. Thomas, and L. E. Gast J. Coat. Technol. 49(628): 48-50. May 1977
- Cephaloascus albidus, A New Heterothallic Yeastlike Fungus C. P. Kurtzman
 Mycologia 69(3): 547-555. May-June 1977

- Importancia Practica de los Inhibidores de Tripsina de la Soya [Practical Significance of Soybean Trypsin Inhibitors. In Spanish]
 Joseph J. Rackis and J. E. McGhee
 Proc. First Latin American Soy Protein Conf., Mexico City, Nov. 9-12, 1975, pp. 145-158. [1975]
- El Sabor y los Oligosacaridos como Factores Limitantes en el Consumo de la Soya [Flavor and Oligosaccharides as Limiting Factors in Soy Consumption. In Spanish]
 W. J. Wolf
 Proc. First Latin American Soy Protein Conf., Mexico City, Nov. 9-12, 1975, pp. 158-168. [1975]
- 4032* Salad Dressings
 C. P. Kurtzman

 In "Compendium of Methods for the Microbiological Examination of Foods," ed. Marvin L. Speck, chap. 48, pp. 594-598.

 American Public Health Association, Washington, D.C. 1976
- 4033* New Uses for Miso [In Japanese]
 C. W. Hesseltine
 Sci. Technol. Miso No. 263, pp. 5-7. 1976
- Heavy Metal Pollution Control in the Printed Circuit Industry
 R. E. Wing and W. E. Rayford
 Proc. Am. Electroplaters' Soc., Merrimack Valley Branch,
 6th Annu. Printed Circuit Workshop, Danvers, Mass., March 9-10,
 43 pp. March 1977
- 4035* Calling All Tempeh Lovers
 Hwa L. Wang, E. W. Swain, and C. W. Hesseltine
 Org. Gard. Farm. 24(6): 108, 110-111. June 1977
- 4036* Treatment Process for Some Rinse Waters from Electroless Plating of Copper
 R. E. Wing, W. E. Rayford, and W. M. Doane
 Plat. Surf. Finish 64(6): 57-62. June 1977

- 4037* · Contemporary Species Concepts in Actinomycetales
 Thomas G. Pridham
 In "Actinomycetes: The Boundary Microorganisms," ed. T. Arai,
 pp. 163-174. Tokyo, Japan. 1976
- 4038* Identification of Streptomycetes and Streptoverticillia at the Species Level: Revision of 1965 System Thomas G. Pridham In "Actinomycetes: The Boundary Microorganisms," ed. T. Arai, pp. 175-181. Tokyo, Japan. 1976
- 4039* Polyenic Antifungal Antibiotics: Systematics of Producers
 Thomas G. Pridham and Allister J. Lyons
 In "Actinomycetes: The Boundary Microorganisms," ed. T. Arai,
 pp. 373-541. Tokyo, Japan. 1976
- Developments in Edible Oil Production
 Herbert J. Dutton
 In "World Soybean Research," ed. Lowell D. Hill, Proc. World
 Soybean Res. Conf., Urbana, Ill., Aug. 3-8, 1975, pp. 805-810.
 September 1976
- 4041* Flatulence Problems Associated with Soy Products
 J. J. Rackis
 In "World Soybean Research," ed. Lowell D. Hill, Proc. World
 Soybean Res. Conf., Urbana, Ill., Aug. 3-8, 1975, pp. 892-903.
 September 1976
- Degradation of Fatty Acid Hydroperoxide by Cereals and a Legume: A Comparison
 H. W. Gardner and D. J. Sessa
 Proc. 13th World Congr. Int. Soc. Fat Res., Marseilles, France, Aug. 30-Sept. 4, 1976, Symp. 10, Lipases and Lipoxidases from Vegetable Origin, pp. 10-35 to 10-43. [1976]
- Oxygenated Fatty Acids from Soybean Phosphatidylcholines and Their Possible Derivation from Hydroperoxides
 D. J. Sessa, H. W. Gardner, R. Kleiman, and D. Weisleder Proc. 13th World Congr. Int. Soc. Fat Res., Marseilles, France, Aug. 30-Sept. 4, 1976, Symp. 10, Lipases and Lipoxidases from Vegetable Origin, pp. 10-45 to 10-61. [1976]

- Enzymes in Soybean Processing and Quality Control
 J. J. Rackis
 In "Enzymes in Food and Beverage Processing," eds. Robert L. Ory
 and Allen J. St. Angelo (chap. 14), ACS Symp. Ser. No. 47:
 244-265. 1977
- A Convenient and Inexpensive Laboratory Jack Henry Rakoff
 J. Chem. Educ. 54(5): 320. May 1977
- Rheology of a Cellulose Graft Copolymer. Comparison with Other Closely Packed Gel Thickeners

 N. W. Taylor and E. B. Bagley

 J. Appl. Polym. Sci. 21(6): 1607-1613. June 1977
- 4-Acetamido-2-Butenoic Acid from Fusarium graminearum
 Ronald F. Vesonder, Larry W. Tjarks, Alex Ciegler, Gayland F.
 Spencer, and Lowell L. Wallen
 Phytochemistry 16(8): 1296-1297. June 1977
- 4048 Physiological Characteristics and the Species Concept in Actinomycetales
 Thomas G. Pridham
 Dev. Ind. Microbiol. 18: 287-297. 1977
- Production of L-Serine Dehydratase by Aeromonas punctata
 G. E. N. Nelson and R. E. Peterson
 Dev. Ind. Microbiol. 18: 511-516. 1977
- Lignocellulosic Agricultural Wastes Degraded by *Pleurotus* ostreatus
 T. Kaneshiro
 Dev. Ind. Microbiol. 18: 591-597. 1977
- Continuous Photoproduction of Molecular Hydrogen by Anabaena flos-aquae
 G. W. Strandberg
 Dev. Ind. Microbiol. 18: 649-654. 1977

- Transmission of PsV-F and PsV-S Mycoviruses During Conidiogenesis of Penicillium stoloniferum
 D. M. DeMarini, C. P. Kurtzman, D. I. Fennell, K. A. Worden, and R. W. Detroy
 J. Gen. Microbiol. 100: 59-64. 1977
- Allylic Hydroperoxides from the Autoxidation of Methyl Oleate Robert F. Garwood, Bhupinder P. S. Khambay, Basil C. L. Weedon, and Edwin N. Frankel (Queen Mary College, University of London, London, England) J. Chem. Soc. Chem. Commun. (11): 364-365. June 1977
- 4054* Cereal Proteins
 G. E. Inglett
 In "Food Proteins," eds. John R. Whitaker and Steven R. Tannenbaum, pp. 267-290. Westport, Conn. 1977
- Legumes: Seed Composition and Structure, Processing into Protein Products and Protein Properties
 W. J. Wolf
 In "Food Proteins," eds. John R. Whitaker and Steven R. Tannenbaum, pp. 291-314. 1977
- Homogeneous Hydrogenation of Unsaturated Fats. Applications and Implications

 E. N. Frankel
 Proc. 13th World Congr. Int. Soc. Fat Res., Marseilles, France, Aug. 30-Sept. 4, 1976, Symp. 1, New Trends in Fat Hydrogenation, pp. 1-1 to 1-15. [1976]
- Food Proteins from Unconventional Cereals
 G. E. Inglett
 Food Technol. 31(5): 180-181. May 1977
- Fractionation of Defatted Wheat- and Corn-Germ Flours by Air Classification

 A. C. Stringfellow, O. L. Brekke, V. F. Pfeifer, L. H. Burbridge, and E. L. Griffin

 Cereal Chem. 54(3): 415-428. May-June 1977
- Effect of Bound Lipid on Flavor of Protein Isolate from Corn Germ

 H. C. Nielsen, J. S. Wall, J. K. Mueller, K. Warner, and G. E. Inglett
 Cereal Chem. 54(3): 503-510. May-June 1977

- Aflatoxin Occurrence in 1973 Corn at Harvest. III. Aflatoxin Distribution in Contaminated, Insect-Damaged Corn
 O. L. Shotwell, M. L. Goulden, E. B. Lillehoj, W. F. Kwolek, and C. W. Hesseltine
 Cereal Chem. 54(3): 620-626. May-June 1977
- Acceptance and Utilization by Swine of Aflatoxin-Contaminated Corn Treated with Aqueous or Gaseous Ammonia

 A. H. Jensen, O. L. Brekke, G. R. Frank, and A. J. Peplinski (University of Illinois, Urbana)

 J. Anim. Sci. 45(1): 8-12. July 1977
- Encapsulation of Pesticides Within a Starch Matrix W. M. Doane, B. S. Shasha, and C. R. Russell ACS Symp. Ser. 53: 74-83. 1977
- Aflatoxin in Corn: Ammonia Inactivation and Bioassay with Rainbow Trout
 O. L. Brekke, R. O. Sinnhuber, A. J. Peplinski, J. H. Wales, G. B. Putnam, D. J. Lee, and A. Ciegler (10regon State University, Corvallis; 2Washington State University, Pullman)
 Appl. Environ. Microbiol. 34(1): 34-37. July 1977
- Production of Refusal Factors by Fusarium Strains on Grains R. F. Vesonder, A. Ciegler, and A. H. Jensen¹
 (1University of Illinois, Urbana)
 Appl. Environ. Microbiol. 34(1): 105-106. July 1977
- Survey of 1975 Wheat and Soybeans for Aflatoxin, Zearalenone, and Ochratoxin
 Odette L. Shotwell, Marion L. Goulden, Glenn A. Bennett,
 Ronald D. Plattner, and Clifford W. Hesseltine
 J. Assoc. Off. Anal. Chem. 60(4): 778-783. July 1977
- Reverse Phase Analytical and Preparative High Pressure Liquid Chromatography of Aflatoxins
 Robert D. Stubblefield and Odette L. Shotwell
 J. Assoc. Off. Anal. Chem. 60(4): 784-790. July 1977

- Glucosinolates and Derived Products in Cruciferous Vegetables:
 Total Glucosinolates by Retention on Anion Exchange Resin and
 Enzymatic Hydrolysis to Measure Released Glucose
 Cecil H. VanEtten and Melvin E. Daxenbichler
 J. Assoc. Off. Anal. Chem. 60(4): 946-949. July 1977
- Glucosinolates and Derived Products in Cruciferous Vegetables:

 Gas-Liquid Chromatographic Determination of the Aglucon
 Derivatives from Cabbage

 Melvin E. Daxenbichler and Cecil H. VanEtten
 J. Assoc. Off. Anal. Chem. 60(4): 950-953. July 1977
- * Alchormea cordifolia Seed Oil: A Rich Source of a New C₂₀ Epoxide, (+)cis-14,15-epoxy-cis-11-eicosenoic Acid R. Kleiman, R. D. Plattner, and G. F. Spencer Lipids 12(7): 610-612. July 1977
- Analysis of Hydroformylated Vegetable Oils and Their Methyl Esters for Rhodium
 E. J. Dufek and G. R. List
 J. Am. Oil Chem. Soc. 54(7): 271-275. July 1977
- Recovery of Solubilized Rhodium from Hydroformylated Vegetable
 Oils and Their Methyl Esters
 E. J. Dufek and G. R. List
 J. Am. Oil Chem. Soc. 54(7): 276-278. July 1977
- Fortification of Dry-Milled Sorghum with Oilseed Proteins G. N. Bookwalter, K. Warner, and R. A. Anderson J. Food Sci. 42(4): 969-973. July-August 1977
- Scanning Electron Microscopy of Kenaf Paper Structures
 G. F. Touzinsky, F. L. Baker, R. L. Cunningham, and M. O. Bagby
 J. Agric. Food Chem. 25(4): 734-738. July-August 1977
- Cysteine Adds to Lipid Hydroperoxide

 H. W. Gardner, R. Kleiman, D. Weisleder, and G. E. Inglett
 Lipids 12(8): 655-660. August 1977

- 4075 cis-Enediyne Chromophore of Isano Oil
 Roger W. Miller, David Weisleder, Ronald D. Plattner, and
 C. R. Smith, Jr.
 Lipids 12(8): 669-675. August 1977
- New Developments in Silver Resin Chromatography of cis and trans Fatty Methyl Esters
 C. R. Scholfield and T. L. Mounts
 J. Am. Oil Chem. Soc. 54(8): 319-321. August 1977
- Characteristics of Aerobic, Solid Substrate Fermentation of Swine Waste-Corn Mixtures
 B. A. Weiner
 Eur. J. Appl. Microbiol. 4(1): 51-57. July 1977
- Fermentation of Swine Waste-Corn Mixtures for Animal Feed:
 Pilot-Plant Studies
 B. A. Weiner
 Eur. J. Appl. Microbiol. 4(1): 59-65. July 1977
- Synthetic Wax Esters and Diesters from Crambe and Limnanthes Seed Oils
 H. J. Nieschlag, G. F. Spencer, R. V. Madrigal, and J. A. Rothfus Ind. Eng. Chem., Prod. Res. Dev. 16(3): 202-207. September 1977
- Aspergillus flavus Presence in Silks and Insects from Developing and Mature Corn Ears

 D. I. Fennell, W. F. Kwolek, E. B. Lillehoj, G. L. Adams,
 R. J. Bothast, M. S. Zuber, O. H. Calvert, W. D. Guthrie, A. J. Bockholt, A. Manwiller, and M. D. Jellum
 (1ARS, USDA, University of Missouri, Columbia; University of Missouri AES, Columbia; Ankeny Research Farm, ARS, USDA, Ankeny, Iowa; Texas A&M University, College Station; Clemson University, Pee Dee Experiment Station, Florence, South Carolina; Georgia AES, Experiment)
 Cereal Chem. 54(4): 770-778. July-August 1977
- Yield and Chemical Composition of Fractions from the Dry Milling of a High-Lysine Grain Sorghum
 R. A. Anderson, H. F. Conway, and L. H. Burbridge Cereal Chem. 54(4): 855-856. July-August 1977

- Protein Isolate from High-Protein Oats: Preparation, Composition and Properties
 Y. Victor Wu, Kenneth R. Sexson, James E. Cluskey, and G. E. Inglett
 J. Food Sci. 42(5): 1383-1386. September-October 1977
- Lactobacillus acidophilus Utilization of Sugars and Production of a Fermented Soybean Product

 N. J. Stern, ¹ C. W. Hesseltine, H. L. Wang, and F. Konishi¹ (¹Southern Illinois University, Carbondale)
 Can. Inst. Food Sci. Technol. J. 10(3): 197-200. July 1977
- Polygala virgata Seed Oil--A New Source of Acetotriglycerides C. R. Smith, Jr., R. V. Madrigal, D. Weisleder, and R. D. Plattner
 Lipids 12(9): 736-740. September 1977
- Stereospecific Synthesis of cis and trans Fatty Esters
 Henry Rakoff and Edward A. Emken
 Lipids 12(9): 760-761. September 1977
- Antitumor Alkaloids in Callus Cultures of Cephalotaxus harringtonia
 Norman E. Delfel and John A. Rothfus
 Phytochemistry 16(10): 1595-1598. August 1977
- Germination and Outgrowth of Bacillus popilliae Spores in Microscope Slide Culture
 E. S. Sharpe and Lee A. Bulla, Jr.
 J. Invertebr. Pathol. 30(2): 242-248. September 1977
- Crambe Processing: Glucosinolate Removal by Water Washing on a Continuous Filter
 E. C. Baker, G. C. Mustakas, and V. E. Sohns
 J. Am. Oil Chem. Soc. 54(10): 387-391. October 1977
- Biological Evaluation of Crambe Meals Detoxified by Water Extraction on a Continuous Filter
 E. C. Baker, G. C. Mustakas, M. R. Gumbmann, and D. H. Gould ("Western Regional Research Center, ARS, USDA, Albany, Calif.)
 J. Am. Oil Chem. Soc. 54(10): 392-396. October 1977

- "Zero trans" Margarines: Preparation, Structure, and Properties of Interesterified Soybean Oil-Soy Trisaturate Blends
 G. R. List, E. A. Emken, W. F. Kwolek, T. D. Simpson, and H. J. Dutton
 J. Am. Oil Chem. Soc. 54(10): 408-413. October 1977
- Preparation and Selective Hydrolysis of Acetal Esters R. O. Adlof, W. E. Neff, E. A. Emken, and E. H. Pryde J. Am. Oil Chem. Soc. 54(10): 414-416. October 1977
- Lipid-Derived Flavors of Legume Protein Products
 David J. Sessa and Joseph J. Rackis
 J. Am. Oil Chem. Soc. 54(10): 468-473. October 1977
- A Versatile Pen-Holder for Chart Recorders
 Henry J. Nieschlag
 J. Chem. Educ. 54(9): 542. September 1977
- Preparation and Properties of Oxidatively and Zinc Coupled Starch Xanthates
 E. I. Stout, D. Trimnell, W. M. Doane, and C. R. Russell Staerke 29(9): 299-303. September 1977
- Aflatoxin in Corn: Evaluation of Filter Fluorometer Reading of Minicolumns
 Odette L. Shotwell, Marion L. Goulden, and William F. Kwolek
 J. Assoc. Off. Anal. Chem. 60(5): 1220-1222. September 1977
- Graft Copolymers of Starch-Polyacrylonitrile Prepared by Ferrous Ion-Hydrogen Peroxide Initiation Edward I. Stout, Donald Trimnell, William M. Doane, and Charles R. Russell J. Appl. Polym. Sci. 21(9): 2565-2573. September 1977
- Wheat Flour Proteins and Their Functionality in Baking Floyd R. Huebner Bakers Dig. 51(5): 25-28, 30-31, 154. October 1977
- A Starch Polyampholyte for Paper
 M. E. Carr, B. T. Hofreiter, M. I. Schulte, and C. R. Russell
 Tappi 60(10): 66-69. October 1977

- Corn-Based Foods Used in Food Aid Programs: Stability Characteristics--A Review
 N. Bookwalter
 Food Sci. 42(6): 1421-1424, 1427. November-December 1977
- Starch, Graft Copolymers
 George F. Fanta and E. B. Bagley
 Encycl. Polym. Sci. Technol., Suppl. 2: 665-699. 1977
- A Fermentation Process for the Utilization of Swine Waste
 B. A. Weiner
 In "Food, Fertilizer and Agricultural Residues," ed. Raymond C.
 Loehr, Proc. 1977 Cornell Agric. Waste Mgt. Conf., Syracuse, N.Y.,
 April 27-29, chap. 41, pp. 621-635. 1977
- 4102* Seeds of Hope for Food Gains from Grains
 W. H. Tallent, R. A. Anderson, and T. L. Mounts
 Proc. Nat. Food Loss Conf., Sept. 12-15, 1976, Boise, Idaho,
 pp. 17-29. [1977]
- Industrial Uses for Agricultural Byproducts
 Dwight L. Miller
 Proc. Symp. on Ecology and Agricultural Production, ed. Lloyd F. Seatz, University of Tennessee, Knoxville, July 10-17, 1973, pp. 157-162. 1977
- 4104* Important Sources of Mycotoxins in Cattle Feeds
 Eivind B. Lillehoj
 Proc. Am. Assoc. Bovine Practitioners Pre-Convention Seminar on
 Bovine Mycotoxicoses, Acad. Vet. Consultants, San Francisco,
 Calif., Dec. 8, 1976, pp. 34-51. 1977
- Ferrous Sulfate Treatment for Rinse Waters from the Electroless Plating of Copper
 R. E. Wing, W. E. Rayford, and W. M. Doane
 Plat. Surf. Finish. 64(10): 39-43. October 1977
- Improving Nutritional Properties of Sorghum by Fortification with Oilseed Proteins
 G. N. Bookwalter and R. A. Anderson
 Proc. 10th Biennial Grain Sorghum Res. Util. Conf., Wichita, Kansas, March 2-4, p. 67. 1977

- Sorghum Utilization Research at the Northern Regional Research Center
 R. A. Anderson and G. N. Bookwalter
 Sorghum Newsletter 20: 101-102. 1977
- Antioxidant Activity of Soybean Flour and Derivatives--A Review R. E. Hayes, G. N. Bookwalter, and E. B. Bagley J. Food Sci. 42(6): 1527-1532. November-December 1977
- Starch Xanthate Interpolymer in Groundwood Printing Paper G. E. Hamerstrand, M. E. Carr, B. T. Hofreiter, and C. R. Russell Svensk Papperstidning 80(16): 508-509, 518. 1977
- 4110* Identification of the Factors Affecting Stimulation of Chick Growth from Soybeans Cultured with Fungi C. W. Carlson, C. C. Chah, G. Semeniuk, I. S. Palmer, and C. W. Hesseltine (South Dakota State University, Brookings)
 Proc. XV World Poultry Congr., New Orleans, La., Aug. 15, 1974, pp. 480-482. 1974
- Mycotoxins--Corn-Related Problems
 Odette L. Shotwell
 Cereal Foods World 22(10): 524-527. October 1977
- Penicillic Acid Production in Submerged Culture
 L. A. Lindenfelser and A. Ciegler
 Appl. Environ. Microbiol. 34(5): 553-556. November 1977
- Azygosporogenesis in Mucor azygosporus

 K. L. O'Donnell, J. J. Ellis, C. W. Hesseltine, and G. R. Hooper¹

 (¹Center for Electron Optics, Michigan State University,

 East Lansing)

 Can. J. Bot. 55(21): 2712-2720. November 1977
- Morphogenesis of Azygospores Induced in Gilbertella persicaria (+) by Imperfect Hybridization with Rhizopus stolonifer (-)
 K. L. O'Donnell, J. J. Ellis, C. W. Hesseltine, and G. R. Hooper¹
 (Center for Electron Optics, Michigan State University, East Lansing)
 Can. J. Bot. 55(21): 2721-2727. November 1977

- Catalytic Hydroformylation and Hydrocarboxylation of Unsaturated Fatty Compounds
 E. N. Frankel and E. H. Pryde
 J. Am. Oil Chem. Soc. 54(11): 873A-881A. November 1977
- Geminal Hydroxymethyl Compounds from 9(10)-Formylstearic Acid W. R. Miller and E. H. Pryde J. Am. Oil Chem. Soc. 54(11): 882A-885A. November 1977
- Polyamides from Carboxystearic Acid
 W. L. Kohlhase, E. N. Frankel, and E. H. Pryde
 J. Am. Oil Chem. Soc. 54(11): 506-510. November 1977
- Triglyceride Separation by Reverse Phase High Performance Liquid Chromatography
 R. D. Plattner, G. F. Spencer, and R. Kleiman
 J. Am. Oil Chem. Soc. 54(11): 511-515. November 1977
- Isolation of the 9- and 10-Isomers of Carboxystearic Acid and Their Polyamidation with Hexamethylenediamine W. L. Kohlhase, W. E. Neff, and E. H. Pryde J. Am. Oil Chem. Soc. 54(11): 521-524. November 1977
- Enrichment of Eicosenoic and Docosadienoic Acids from Limnanthes Oil
 Shu-pei Chang and J. A. Rothfus
 J. Am. Oil Chem. Soc. 54(11): 549-552. November 1977

- A Soy Extract Catalyzes Formation of 9-0xo-trans-12,13-epoxy-trans-10-octadecenoic Acid from 13-Hydroperoxy-cis-9,trans-11-octadecadienoic Acid

 H. W. Gardner and R. Kleiman
 Lipids 12(11): 941-944. November 1977
- 4124* Evaluations of Controlled-Release DBCP-Starch Xanthide Granules in Laboratory and Greenhouse Soil Tests
 Julius Feldmesser¹ and B. S. Shasha
 (¹Beltsville Agricultural Research Center--West, ARS, USDA, Beltsville, Md.)
 Proc. 1977 Controlled Release Pesticide Symp., Corvallis, Ore., Aug. 22-24, pp. 205-213. 1977
- Crosslinking of Starch Xanthate. IV. Epoxy Resin and Diepoxide Thickeners for Xanthate and Starch George G. Maher Staerke 29(10): 335-339. October 1977
- Scanning Electron Microscopy of Saponified Starch-g-Polyacrylonitrile
 G. F. Fanta, F. L. Baker, R. C. Burr, W. M. Doane, and C. R. Russell
 Staerke 29(11): 386-391. November 1977
- Preparation of Corn Products Endogenously Labeled with Zinc-65 for Use in Bioavailability Studies
 William J. Garcia, Richard H. Hodgson, Charles W. Blessin, and George E. Inglett
 J. Agric. Food Chem. 25(6): 1290-1295. November-December 1977
- Biodegradable Films from Starch and Ethylene-Acrylic Acid Copolymer
 Felix H. Otey, Richard P. Westhoff, and Charles R. Russell Ind. Eng. Chem., Prod. Res. Dev. 16(3): 305-308. December 1977
- Solid State Fermentation--Part 1
 C. W. Hesseltine
 Process Biochem. 12(6): 24-27. July-August 1977

- 4130* : Aspergillus Taxonomy
 Dorothy I. Fennell
 In "Genetics and Physiology of Aspergillus," eds. John E. Smith
 and John A. Pateman, pp. 1-21. London. 1977
- Possible Atherogenic Properties of trans-Unsaturated Fatty Acids C. E. Elson, N. J. Benevenga, D. J. Canty, R. H. Grummer, A. E. Johnston, J. J. Lalich, J. R. Porter, J. Rapacz, and E. S. Shragol (1 Food Research Institute, University of Wisconsin, Madison)

 In "Food Research Institute Annual Report--1976," University of Wisconsin, Madison, pp. 401-414. [1977]
- Acute Toxicity of T-2 Toxin in Broiler Chicks and Laying Hens M. S. Chi, ¹ C. J. Mirocha, ¹ H. J. Kurtz, ¹ G. Weaver, ¹ F. Bates, ¹ W. Shimoda, ² and H. R. Burmeister (¹University of Minnesota, St. Paul; ²Bureau of Veterinary Medicine, Food and Drug Administration, Beltsville, Md.) Poult. Sci. 56(1): 103-116. January 1977
- 4133* Potential Wealth in New Crops: Research and Development
 L. H. Princen
 In "Crop Resources," ed. David S. Seigler, Proc. 17th Annu.
 Mtg. Soc. Econ. Bot., Urbana, Ill., June 13-16, 1976, pp. 1-15.
 New York. 1977
- 4134* Nonfood Uses for Commercial Vegetable Oil Crops

 E. H. Pryde
 In "Crop Resources," ed. David S. Seigler, Proc. 17th Annu.
 Mtg. Soc. Econ. Bot., Urbana, Ill., June 13-16, 1976, pp. 25-45.
 New York. 1977
- New Industrial Potentials for Carbohydrates
 F. H. Otey
 In "Crop Resources," ed. David S. Seigler, Proc. 17th Annu.
 Mtg. Soc. Econ. Bot., Urbana, Ill., June 13-16, 1976, pp. 47-60.
 New York. 1977
- New Developments in Triglyceride Chemistry for Plastics and Coatings

 L. H. Princen
 Proc. 3rd Int. Conf. Org. Coat. Sci. Technol., Athens, Greece, July 18-22, pp. 342-354.
 1977

- 4137* Vegetable Oil Research at NRRC for Plastics and Coatings L. H. Princen Am. Chem. Soc. Div. Org. Coat. Plast. Chem. Pap. 37(1): 79-82. 1977
- Mildew and Weather Resistance of Linseed Oil Paints from Treated Pigments
 R. L. Eissler, J. A. Stolp, and F. L. Baker
 Am. Chem. Soc. Div. Org. Coat. Plast. Chem. Pap. 37(1): 101-109. 1977
- 4139* Atomic Absorption Flashback
 G. R. List
 J. Am. Oil Chem. Soc. 54(9): 677A. September 1977
- A Polysalt Complex for Wet-End Addition

 M. E. Carr, G. E. Hamerstrand, B. T. Hofreiter, and C. R. Russell

 Tappi 60(12): 148-149. December 1977
- Need for Renewable Coatings Raw Materials and What Could Be Available Today
 L. H. Princen
 J. Coat. Technol. 49(635): 88-93. December 1977
- Wheat Gliadin Homology Revealed Through N-Terminal Amino Acid Sequence Analysis
 J. A. Bietz, F. R. Huebner, J. E. Sanderson, and J. S. Wall Cereal Chem. 54(5): 1070-1083. September-October 1977
- Alcohol Treatment of Soybeans and Soybean Protein Products
 A. C. Eldridge, K. Warner, and W. J. Wolf
 Cereal Chem. 54(6): 1229-1237. November-December 1977

- Mycotoxic Diseases Produced in Mice by Species of the Aspergillus ochraceus Group
 J. L. Zimmerman, W. W. Carlton, J. Tuite, and D. I. Fennell
 (¹Purdue University, West Lafayette, Indiana)
 Food Cosmet. Toxicol. 15: 411-418. 1977
- Swelling of Penicillium digitatum Conidia by a Fusarium acuminatum NRRL 6227 Metabolite

 H. R. Burmeister, R. F. Vesonder, and C. W. Hesseltine Mycopathologia 62(1): 53-56. November 1977
- Partial Digestibility of Cooked Amylomaize Starch in Humans and Mice

 M. J. Wolf, U. Khoo, and G. E. Inglett
 Staerke 29(12): 401-405. December 1977
- A Practical Process for the Preparation of Super Slurper, A Starch-Based Polymer with a Large Capacity to Absorb Water M. O. Weaver, R. R. Montgomery, L. D. Miller, V. E. Sohns, G. F. Fanta, and W. M. Doane Staerke 29(12): 413-422. December 1977
- Preparation of Starch Poly(styrene-co-acrylonitrile) Graft Polymers by Cerium(IV) Initiation
 L. A. Gugliemelli, C. L. Swanson, W. M. Doane, and C. R. Russell
 J. Polym. Sci., Polym. Lett. Ed. 15(12): 739-743.
 December 1977
- Mineral Availability in Soy Protein Products
 J. J. Rackis and R. L. Anderson
 Food Prod. Dev. 11(10): 38, 40, 44. December 1977
- Ammonia-Supplemented Ambient Temperature Drying of High-Moisture Corn G. W. Nofsinger, R. J. Bothast, E. B. Lancaster, and E. B. Bagley Trans. ASAE 20(6): 1151-1154, 1159. November-December 1977
- Development of an Automated Vegetable Oil Minirefinery
 E. Duane Bitner, J. M. Snyder, J. O. Ernst, and H. J. Dutton
 Fette Seifen Anstrichm. 79(12): 483-486. December 1977

REPUBLICATIONS

- 2822* ・ 第1章 とうもろこしの概観 [Corn in Perspective, pp. 1-5] G. E. Inglett
 In "Corn: Culture, Processing, Products," ed. G. E. Inglett, (translated into Japanese), chap. 1, pp. 1-5. 1977
- 2823* ・ 第6章 経済学:生産とマーケッティング [Economics: Production and Marketing, pp. 84-122]
 Clarence A. Moore¹ and Philip B. Dwoskin²
 (¹USDA Marketing Economics Division, Peoria, II1.; ²USDA Marketing Economics Division, Washington, D.C.)
 In "Corn: Culture, Processing, Products," ed. G. E. Inglett (translated into Japanese), chap. 6, pp. 83-120. 1977
- 2824* ・ 第7章 粒の構造,組成および品質 [Kernel Structure, Composition, and Quality, pp. 123-137]
 G. E. Inglett
 In "Corn: Culture, Processing, Products," ed. G. E. Inglett (translated into Japanese), chap. 7, pp. 121-135. 1977
- 2825* ・ 第8章 全世界のとうもろこし利用食品 [Food Uses of Corn Around the World, pp. 138-150]
 G. E. Inglett
 In "Corn: Culture, Processing, Products," ed. G. E. Inglett (translated into Japanese), chap. 8, pp. 137-150. 1977
- 2826* ・ 第9章 とうもろこしのウェットミリング工業 [Corn Wet Milling Industry, pp. 151-170]
 Roy A. Anderson
 In "Corn: Culture, Processing, Products," ed. G. E. Inglett (translated into Japanese), chap. 9, pp. 151-169. 1977
- 2827* ・ 第14章 とうもろこしのドライミリング工業 [Corn Dry Milling Industry, pp. 262-291]

 O. L. Brekke

 In "Corn: Culture, Processing, Products," ed. G. E. Inglett (translated into Japanese), chap. 14, pp. 259-286. 1977

2828* ・ 第16章 発酵工業とアルコール工業 [Fermentation and Distilling Industries, pp. 307-313]
G. E. Inglett
In "Corn: Culture, Processing, Products," ed. G. E. Inglett (translated into Japanese), chap. 16, pp. 301-306. 1977

The book "Corn: Culture, Processing, Products" was originally published in 1970. In 1972 this work was partially translated into Yugoslavian. English titles and original page numbers are given in brackets for the chapters contributed by NRRC scientists.

- Mycotoxins. Aflatoxin: Detection and Determination in Corn
 [O. L. Shotwell]
 North. Reg. Res. Center, U.S. Agric. Res. Serv.,
 CA-NRRC-37(Rev. 2), 3 pp. September 1977; CA-NRRC-37(Rev. 3),
 3 pp. October 1977
- Linseed Oil. Curing-Antiscaling Emulsion for Concrete
 [L. E. Gast]
 North. Reg. Res. Center, U.S. Agric. Res. Serv., CA-NRRC-39(Rev.),
 6 pp. October 1977
- 3470* ・新しい甘味料へのアプローチ [Sweeteners: New Challenges and Concepts, pp. 1-9]
 G. E. Inglett
 In "Symposium: Sweeteners," ed. G. E. Inglett (translated into Japanese), chap. 1, pp. 1-11. 1977
- 3471* ・ (1'→2)結合二糖類のグリコシド甘味料の構造 [Structural Aspects of Glycosidic Sweeteners Containing (1'→2)-Linked Disaccharides, pp. 216-234]
 J. E. Hodge and G. E. Inglett
 In "Symposium: Sweeteners," ed. G. E. Inglett (translated into Japanese), chap. 20, pp. 231-250. 1977

The book "Symposium: Sweeteners" was originally published in 1973. In 1977 this book was translated into Japanese by Professor Namiki and was published by Ishiyaku Publishers, Inc. English titles and original page numbers are given in brackets for the chapters contributed by NRRC scientists.

- 3576* ・第1章 小麦についての概論 [Wheat in Perspective, pp. 1-7] G. E. Inglett
 In "Wheat: Production and Utilization," ed. George E. Inglett
 (translated into Japanese), chap. 1, pp. 1-8. 1974
- 3577* · 第3章 生 產 [Production, pp. 31-51]
 Clarence A. Moore¹
 (¹Economic Research Service, USDA, Peoria, Ill.)
 In "Wheat: Production and Utilization," ed. George E. Inglett (translated into Japanese), chap. 3, pp. 37-62. 1974
- 3578* ・第5章 マーケティング [Marketing, pp. 72-92]
 Clarence A. Moore¹
 (¹Economic Research Service, USDA, Peoria, Ill.)
 In "Wheat: Production and Utilization," ed. George E. Inglett (translated into Japanese), chap. 5, pp. 87-112. 1974
- 3579* ・ 第7章 穀粒の構造と組成 [Kernel Structure and Composition, pp. 108-118]
 George E. Inglett
 In "Wheat: Production and Utilization," ed. George E. Inglett (translated into Japanese), chap. 7, pp. 130-141. 1974
- 9580* · 第10章 製 粉 [Flour Milling, pp. 185-198]
 George E. Inglett and Roy A. Anderson
 In "Wheat: Production and Utilization," ed. George E. Inglett
 (translated into Japanese), chap. 10, pp. 218-234. 1974
- 3581* ・ 第13章 小麦粉の湿式加工 [Wet-Processing of Wheat Flour, pp. 355-365]
 Roy A. Anderson
 In "Wheat: Production and Utilization," ed. George E. Inglett (translated into Japanese), chap. 13, pp. 419-432. 1974
- 3582* ・第16章 小麦および小麦粉の工業向け用途 [Industrial Uses of Wheat and Flour, pp. 398-411]
 Dwight L. Miller
 In "Wheat: Production and Utilization," ed. George E. Inglett (translated into Japanese), chap. 16, pp. 473-488. 1974

・第17章 アメリカ産小麦の分配と活用 [Distribution and Utilization of U.S. Wheat, pp. 412-463]

Kenneth R. Majors¹
(¹Grain Products Extension Service, USDA, Peoria, Ill.)

In "Wheat: Production and Utilization," ed. George E. Inglett (translated into Japanese), chap. 17, pp. 489-549. 1974

The book "Wheat: Production and Utilization" was originally published in 1974. English titles and original page numbers are given in brackets for the chapters contributed by NRRC scientists.

4056* • Homogeneous Hydrogenation of Unsaturated Fats. Applications and Implications
E. N. Frankel
Rev. Fr. Corps Gras 24(5): 241-248. May 1977

This paper was originally published in 1976 in the proceedings of the 13th World Congress of the International Society for Fat Research, held at Marseilles, France, August 30-September 4, 1976.

CONTRACT AND GRANT RESEARCH PUBLICATIONS

[Report of research done by an outside agency under contract with the U.S. Department of Agriculture and supervised by the Northern Regional Research Center.]

- 277-C* Control of Aflatoxin Production During Fermentation of Wild Rice J. F. Frank, G. S. Torrey, E. H. Marth, D. A. Stuiber, R. C. Lindsay, and D. B. Lund University of Wisconsin, Madison J. Milk Food Technol. 38(2): 73-75. February 1975
- 278-C* Drying and Hulling Characteristics of Wild Rice
 D. B. Lund, R. C. Lindsay, D. A. Stuiber, C. E. Johnson, and E. H. Marth
 University of Wisconsin, Madison
 Cereal Foods World 20(3): 150-154. March 1975
- 279-C* Extended Storage of Wild Rice
 D. B. Lund, R. Heidemann, R. C. Lindsay, C. E. Johnson, E. H.
 Marth, and D. A. Stuiber
 University of Wisconsin, Madison
 Trans. ASAE 19(2): 332-336, 340. March-April 1976

280-C* • Microorganisms and Flavor Development Associated with the Wild Rice Fermentation

J. F. Frank, E. H. Marth, R. C. Lindsay, and D. B. Lund University of Wisconsin, Madison

J. Milk Food Technol. 39(9): 606-613. September 1976

[Report of research done by an outside agency under a grant from the U.S. Department of Agriculture and supervised by the Northern Regional Research Center.]

- 145-G* A Sensitive Estimation of the Percentage of Guanine Plus Cytosine in Deoxyribonucleic Acid by High Performance Liquid Chromatography
 C. Y. Ko, J. L. Johnson, L. B. Barnett, H. M. McNair, and J. R. Vercellotti
 Virginia Polytechnic Institute and State University, Blacksburg Anal. Biochem. 80(1): 183-192. May 1977
- 146-G* High-Pressure Liquid-Chromatographic Assay of Nucleotide-Pool Concentrations During Polysaccharide Biosynthesis in Four Ascomycetes
 Chan Yan Ko, Harold M. McNair, and John R. Vercellotti
 Virginia Polytechnic Institute and State University, Blacksburg Carbohydr. Res. 58(2): 453-471. October 1977

[Report of research work supported with funds provided by the U.S. Department of Agriculture under the authority of U.S. Public Law 480, 83rd Congress, and sponsored by the Northern Regional Research Center.]

- 366-F Effect of Various Auxins on Growth and Production of Tropane Alkaloids from in vitro Tissue Culture of Datura metel Linn.

 Pushpa Khanna and Renu Khanna
 University of Rajasthan, Jaipur, India
 Indian J. Pharm. 38(5): 120-123. 1976
- 367-F Production of Major Alkaloids from in vitro Tissue Cultures of Papaver somniferum Linn.

 Pushpa Khanna and Renu Khanna
 University of Rajasthan, Jaipur, India
 Indian J. Exp. Biol. 14(5): 628-630. September 1976

- Endogenous Free Ascorbic Acid and Effect of Exogenous Ascorbic Acid on Growth and Production of Pyrethrins from in vitro Tissue Culture of Tagetes erecta L.

 Pushpa Khanna and Renu Khanna
 University of Rajasthan, Jaipur, India
 Indian J. Exp. Biol. 14(5): 630-631. September 1976
- 369-F Isolation & Characterization of Sapogenin & Solasodine from in vitro Tissue Cultures of Some Solanaceous Plants
 Pushpa Khanna, Amin Uddin, G. L. Sharma, S. K. Manot, and A. K. Rothore
 University of Rajasthan, Jaipur, India
 Indian J. Exp. Biol. 14(6): 694-696. November 1976
- 370-F

 Decomposition of Soybean Oligosaccharides by Intestinal Bacteria.
 VIII. β-Fructosidase Activity of Some Intestinal Bacteria Sin'itiro Kawamura, Tadasi Kasai, and Sumizo Tanusi Kagawa University, Takamatsu, Japan Tech. Bull. Fac. Agric. Kagawa Univ. 28(60): 67-74. March 1977
- Pseudoephedrine from in vivo and in vitro Tissue Cultures of Ephedra foliata Boiss.
 Pushpa Khanna, Amin Uddin, and Mukul Sogani University of Rajasthan, Jaipur, India Indian J. Pharm. 38(6): 140-141. 1976
- Carotenogenesis: Possible Mechanism of Action of Trisporic Acid in Blakeslea trispora
 Satya Rao and V. V. Modi
 M.S. University of Baroda, Baroda, India
 Experientia 33(1): 31-33. January 1977
- 374-F Atropine from Atropa belladonna Linn. Tissue Culture Pushpa Khanna, G. L. Sharma, and Amin Uddin University of Rajasthan, Jaipur, India Indian J. Exp. Biol. 15(4): 323-324. April 1977
- Stored Grain Pest Control Agents from Nigella sativa and Pogostemon heyneanus

 R. S. Deshpande, P. R. Adhikary, and H. P. Tipnis
 The Bombay College of Pharmacy, Bombay, India
 Bull. Grain Technol. 12(3): 232-234. December 1974

376-F • Juvenile Hormone-Like Activity of Some Indian Herbaceous Plants R. S. Deshpande, P. R. Adhikary, and H. P. Tipnis The Bombay College of Pharmacy, Bombay, India Indian J. Exp. Biol. 12(6): 574-575. November 1974

PATENTS

[These patents are assigned to the Secretary of Agriculture. Copies of patents may be purchased (50 cents each) from the Commissioner of Patents and Trademarks, U.S. Patent and Trademark Office, Washington, D.C. 20231. Order by number, do not send stamps.]

Method of Making Nongelling Aqueous Cationic Dialdehyde Starch Compositions
Harley D. Heath, Bernard T. Hofreiter, and Adrian J. Ernst
U.S. Patent 4,001,032. January 4, 1977

Specimen Holder and Technique Employed to Effect a Continuous Maximum Concentration Gradient in Critical Point Drying Frederick L. Baker and Lambertus H. Princen U.S. Patent 4,003,135. January 18, 1977

Foamed and Solid Rubber-Starch Graft Copolymer Compositions and Methods of Preparation
George G. Maher
U.S. Patent 4,005,040. January 25, 1977

Extraction of Proteins from Vegetable Seed Compositions Li Chuan Wang U.S. Patent 4,018,755. April 19, 1977

Isolation of Carboxy-Substituted Aliphatic Hydrocarbons
Edward J. Dufek
U.S. Patent 4,021,462. May 3, 1977

Composite Compositions from Graft Polymerized Rigid Fillers Edward B. Bagley, George F. Fanta, William M. Doane, Lewis A. Gugliemelli, and Charles R. Russell U.S. Patent 4,026,849. May 31, 1977

Oligomeric Polyesters from Long-Chain Dicarboxylic Acids as Plasticizers for Vinyl Polymers
Shu-pei Chang and Robert W. Ridgway
U.S. Patent 4,029,627. June 14, 1977

Alcohol Esters of Fatty Acids as Useful Metalworking Lubricants Edward W. Bell U.S. Patent 4,031,019. June 21, 1977

Oxidation of Thiols to Disulfides
Baruch S. Shasha, William M. Doane, and Edward I. Stout
U.S. Patent 4,039,586. August 2, 1977

Highly Absorbent Polymeric Compositions Derived from Flour George F. Fanta and William M. Doane U.S. Patent 4,045,387. August 30, 1977

Removal of Heavy Metal Ions from Aqueous Solutions with Insoluble Crosslinked-Starch-Xanthates
Robert E. Wing and William M. Doane
U.S. Patent 4,051,316. September 27, 1977

Methanol Treated Activated Sludge as an Agricultural Chemical Carrier William B. Roth U.S. Patent 4,065,287. December 27, 1977

LICENSING OF PATENTS

Many inventions and discoveries of the Northern Center are covered by patents assigned to the Secretary of Agriculture.

Assigned patents are available for use by business and industry under either exclusive or nonexclusive licenses. Conditions applicable to the granting of licenses are set forth in the Federal Register, May 14, 1970 [35(94): 7493-7495]. Further information can be obtained from the Administrator, Agricultural Research Service, U.S.Department of Agriculture, Washington, D.C. 20250.

The Northern Regional Research Center is part of the Agricultural Research Service of the U.S. Department of Agriculture. Congress in 1938 authorized four regional laboratories to conduct broad and complex investigations in the field of chemistry and related physical sciences to expand and improve the marketability of agricultural commodities. The addresses and commodities covered are:

Laboratory

Eastern Regional Research Center 600 East Mermaid Lane Philadelphia, Pennsylvania 19118

Northern Regional Research Center 1815 North University Street Peoria, Illinois 61604

Southern Regional Research Center P.O. Box 19687 New Orleans, Louisiana 70179

Western Regional Research Center Berkeley, California 94710

Principal Fields of Research

Animal products: Dairy, meats, fats, and leather. Plant products: Eastern fruits and vegetables, along with honey.

Corn, wheat, grain sorghum, oats, soybeans, flax, crambe, and new crops.

Cotton and cottonseed; sweet potatoes; rice; grain sorghum, peanuts, and cane sugar.

Western fruits, tree nuts, and vegetables; poultry products; forage crops; wheat, barley, rice; wool and mohair; dry beans and peas; castor beans; and safflower.

GPO 818-808-1

UNITED STATES DEPARTMENT OF AGRICULTURE AGRICULTURAL RESEARCH SERVICE NORTHERN REGIONAL RESEARCH CENTER 1815 NORTH UNIVERSITY STREET PEORIA, ILLINOIS 61604

POSTAGE AND FEES PAID U.S. DEPARTMENT OF AGRICULTURE AGR-101



OFFICIAL BUSINESS

